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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,725	12/21/2001	Masashi Yanagi	500.40974X00	5921

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EXAMINER

CHU, KIM KWOK

ART UNIT	PAPER NUMBER
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2653

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,725

Applicant(s)

YANAGI ET AL.

Examiner

Kim-Kwok CHU

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/21/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless --
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.*

2. Claims 1 and 4 are rejected under 35 U.S.C. § 102 (e) as being anticipated by Sugiyama et al. (U.S. Patent 6,438,088).

Sugiyama teaches a focusing system having all the elements and means as recited in claim 1. For example, Sugiyama teaches the following:

(a) as in claim 1, the focusing apparatus for focusing both a parallel light beam 10 and a non-parallel light beam 2 through a movable objective lens 5 onto an object 9 (Fig. 1);

(b) as in claim 1, a negative feedback loop 6 including a detector 8 receiving a reflection light beam of the non-parallel light beam 2 passed through the movable objective lens 5, reflected at the object 9 and passed through again the movable objective lens 5 (Figs. 1 and 2; column 8, lines 20 and 21; servo-actuator 6 is a negative feedback control means);

(c) as in claim 1, the reflected non-parallel light beam 2 generating a detection signal corresponding to a focus deviation of the non-parallel light beam (Fig. 2);

(d) as in claim 1, driver means 6 for receiving the detection signal for controlling a position of the movable objective lens 5 accordance with the detection signal so that the detection signal is decreased (Fig. 1; column 8, lines 15-23; servo actuator 6 includes an objective lens driver means); and

(e) as in claim 1, a correction signal generator 12 for generating a correction signal and supplying it to the negative feedback loop as a disturbance of the loop so that the parallel light is focused onto the object 9 (Figs. 1 and 2; column 8, lines 36-53).

3. Method claim 4 is drawn to the method of using the corresponding apparatus claimed in claim 1. Therefore method claim 4 corresponds to apparatus claim 1 and is rejected for the same reasons of anticipation as used above.

4. Claim 7 is rejected under 35 U.S.C. § 102(e) as being anticipated by Sugiyama et al. (U.S. Patent 6,438,088).

Sugiyama teaches an exposure apparatus having all the elements and means as recited in claim 7. For example, Sugiyama teaches the following:

(a) as in claim 7, the exposure apparatus focusing both a parallel light beam 10 and a non-parallel light beam 2 through a movable objective lens 5 onto an object 9 (Fig. 1);

(b) as in claim 7, negative feedback loop 6 including a detector 8 for receiving a reflection light beam of the non-parallel light beam 2 passed through the movable objective lens 5, reflected at the object 9 and passed through again the movable objective lens 5 (Fig. 1; servo-actuator 6 is a negative feedback servo control means);

(c) as in claim 7, the reflected non-parallel light beam 2 generates a detection signal (from amplifier 12) corresponding to a focus deviation of the non-parallel light beam (Figs. 1 and 2);

(d) as in claim 7, driver means 6 for receiving the detection signal for controlling a position of the movable objective lens 5 in accordance with the detection signal so that the detection signal is decreased (Fig. 1; column 8, lines 15-23); and

(e) as in claim 7, a correction signal generator 6 for generating a correction signal and supplying the negative feedback loop 6 as a disturbance of the loop so that the parallel light beam is focused onto the object 9 (Figs. 1 and 2; controller 6 includes a signal correction/servo generator; column 8, lines 36-53).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 3, 5, 6, 8 and 9 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Sugiyama et al. (U.S. Patent 6,438,088) in view of Tsai (U.S. Patent 6,501,716).

Sugiyama teaches a focusing/exposure apparatus very similar to that of the present invention. For example, Sugiyama teaches the following:

(a) as in claims 2, 5, and 8, the correction signal generator is supplied with the detection signal (Fig. 1; a

servo controller inherently outputs a correction/servo signal from an input signal).

However, Sugiyama does not disclose the following means or steps:

(a) as in claims 2, 5 and 8, the correction signal generator is designed for separating a DC component and a high frequency component from the detection signal; and

(b) as in claims 3, 6 and 9, the correction signal has a low frequency component of 0 to 200 Hz.

Tsai teaches the following:

(a) a correction signal generator 14 is designed for separating a DC component and a high frequency component from the detection signal a (Fig. 2; step 32; abstract, lines 6-8); and

(b) the correction signal has a low frequency component of 0 to 200 Hz (DC component is 0 Hz and the low pass filter 14 outputs signal has a frequency component 0-200 Hz).

To detect the vertical deviation of an objective lens, it would have been obvious to one of ordinary skill in the art to use a low pass filter such as Tsai's in an objective lens actuating feedback loop such as Sugiyama's, because the output of the low pass filter is proportional to the vertical position of the objective lens.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yoo et al. (6,400,666) is pertinent because Yoo teaches a focusing apparatus where a parallel light and a non-parallel light are being focused to an optical disc.

Tay et al. (6,285,636) is pertinent because Tay teaches an objective lens focusing servo system.

Braat (5,844,870) is pertinent because Braat teaches an objective lens focusing servo system.

Baba (5,768,227) is pertinent because Baba teaches an objective lens focusing servo system.

Kowalski et al. (4,652,737) is pertinent because Kowalski teaches a sampled optical focused error detecting system.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks Washington, D.C.
20231 Or faxed to:

(703) 872-9306 (for formal communications intended for
entry. Or:

(703) 746-6909, (for informal or draft communications,
please label "PROPOSED" or "DRAFT")

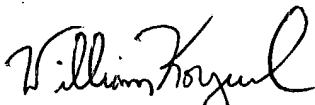
Hand-delivered responses should be brought to Crystal Park
II, 2021 Crystal Drive, Arlington. VA., Sixth Floor
(Receptionist).

Any inquiry of a general nature or relating to the status
of this application should be directed to the Group
receptionist whose telephone number is (703) 305-4700.

Any inquiry concerning this communication or earlier
communications from the examiner should be directed to Kim CHU
whose telephone number is (703) 305-3032 between 9:30 am to
6:00 pm, Monday to Friday.

KC 11/8/04
Kim-Kwok CHU
Examiner AU2653
November 18, 2004

(703) 305-3032


WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600